

EXPLOSION-PROOF HOT WATER HEATER WITH  
UNSEALED FUEL COMBUSTION CHAMBER

ABSTRACT

An explosion-proof hot water heater of the type having a gas-fired combustion chamber at a lower end of the inner tank is described. The combustion chamber is an unsealed chamber and has a sealed bottom wall and a fuel burner in the combustion chamber. Combustion air intake ports are provided about the combustion chamber above the sealed bottom wall. A support base supports the sealed bottom wall elevated from a support surface. Air intake openings are provided about the outer skin casing of the hot water tank and spaced a predetermined distance above the sealed bottom wall. Air passages communicate the air intake openings with the combustion air intake ports of the combustion chamber. A gas vapour sensor is secured in relation to the support base below the sealed bottom wall and is adapted to cause the burner to be shut off upon detection of explosive vapours with sufficient time delay before such vapours reach the combustion chamber.